Effect of Educational Program about Breast Cancer Knowledge and Breast Self-Examination Training on Building Accurate Information and Behavior among Women

Seham A. Abd El-Hay PhD[1, 2]   Nabila S. Mohamed PhD[2, 3]

1.College of Nursing, Medical Surgical Nursing Department, Tanta University, Egypt

2.College of Applied Medical Science, Dammam University, Hafer Al-Batin, KSA

3.College of Nursing, Obstetric & Gynecological Nursing Department, Zagazig University, Egypt

Abstract

Breast cancer is the leading cause of cancer mortality in women world wide. It is the second to cervical cancer as a cause of death from cancer among women. The common age group affected is women above 30 years old. **Aim:** This study was conducted to assess the level of breast cancer knowledge and breast self-examination practice among women and also to examine the effect of educational program regarding breast cancer knowledge and breast Self-examination training on increasing awareness and changing behavior of women. **Design and Setting:** The study uses a quasi experimental design to collect data from the Faculty of Education for Science Departments in Dammam University at Hafer Al Batin Governate, Kingdome of Saudi Arabia. **Sample:** a convenience sample of 36 women who are working as a faculty and administrators in the Faculty of Education for Science Departments in Dammam University. **Tools:** Data collection tool consisted of 2 parts, socio-demographic part and assessment of knowledge and practice toward breast cancer and breast self-examination practice. **Results:** The program contributed to a significant improvement of the level of women's knowledge regarding breast cancer and their practice of breast self-examination. **Conclusion and Recommendation**: Based on the findings of the study, women need to continue updating their knowledge of breast cancer and keep their practice for breast self-examination in order to improve their health and have a better health outcomes

Keywords: breast cancer, breast self-examination, educational program.

1. Introduction

Breast cancer is a serious and common malignancy among women with high morbidity and mortality rate. Each year, approximately one million new cases of breast cancer are diagnosed worldwide [1]. According to World Health Organization 2010, there were about 519,000 women who die from breast cancer annually and about one millions of women develop breast cancer each year [2, 3].

Breast cancer ranks the second cause of death in the Eastern Mediterranean Region. In developed countries, as much as 80% of patients with breast cancer present with operable disease that can apparently be entirely resected surgically [4]. Clinical breast cancer research has focused on effective methods to detect breast cancer at its earliest stages and on standardized prevention and treatment to cure the disease after diagnosis [5].

Risk factors of breast cancer include age, family history, menstrual history, some nutritional factors, carcinogenic exposure; lifestyle related risk factors as oral contraceptive, no breast feeding, smoking, obesity and high fat diet. Although some of the risk factors that increase women's chance to develop breast cancer are relatively known, yet real causes of breast cancer are not known [6].

Mortality rates from breast cancer have decreased by 25 to 30% with early detection, improving quality of screening activities, and enhanced treatment [7]. Breast cancer detection in the early stages has a higher chance of responding successfully to treatment [8]. In Arabic countries, women currently face a significant risk of high mortality rate from breast cancer due to late diagnosis [9]. Women need to be aware about the importance of early detection and diagnosis to have better outcomes.

Early detection and screening activities of breast cancer include breast self- examination (BSE) and mammography. Breast self-exam is a way that enables a woman to check her breast for changes such as lumps or thickenings and any unusual changes should be reported to the doctor. When breast cancer is detected in its early stages, chances for surviving the disease are greatly improved [10]. Breast self Exam (BSE) depends on knowledge, attitude towards BSE practice among women. Its effectiveness is dependent upon the skills of health care providers and available facilities. Mammography also can reduce mortality rates for women aged 40 to 74 by 25% [11].

The American Cancer Society and National Cancer Institute recommend BSE as one of three screening practices for early breast cancer detection. However, there is argument about the effect of BSE that has been discussed in many studies [12, 13]. It is still considered a simple, noninvasive, inexpensive, affordable and accessible method for younger and high risk women to discover early changes in their breasts [14, 15].

In Saudi Arabia, breast cancer is the most common cancer among women and it is found in young Saudi women and late presentation of advanced cases has also been observed. Therefore, the Saudi government

is working intensively to fight breast cancer among female population [16].

Finally, there is a need to optimize women knowledge regarding breast cancer, and provide the required skills that help them detect any abnormality earlier so they can intervene in a timely manner. One advantages of detecting smaller cancers is improving a woman's chances of having breast conserving surgery and reducing her chance of dying from breast cancer or not advisable [17].

Aim of the study

-Assess the level of breast cancer knowledge and breast self-examination practice among women

-Find out the effect of educational program regarding breast cancer knowledge and training about breast Self-examination on being well-informed and changing of behavior of women.

2. Methods

Research design

A quasi-experimental design with pre test post test was used in the present study to examine the effectiveness of an educational program about breast cancer and the practice of breast-self examination on women's knowledge and practice.

Setting of the study

This study was conducted in the Faculty of Education for Science Departments in Dammam University at Hafer Al Batin Governate, KSA .

Subjects

A convenience sample of all available women who are working as faculty and adminstrators in the Faculty of Education for Science Departments in Dammam University at Hafer Al Batin Governate, KSA. A total of 36 women were interviewed after agreeing to participate in the study .

Tools of the study

The study questionnaire was developed by the researchers to collect the relevant data needed for the study, it was consisted of two parts.

Tool (1): Interview questionnaire

The study questionnaire was developed by the investigators based on the work of Phumla.PH (2011)[18], Muluken A. etal.,(2013)[19] and Kendra G.(2011)[20] and current related literature to assess level of knowledge and practice of breast cancer and BSE among women, this tool covered the following:

1-Socio-Demographic characteristics; the personal characteristics of the women namely are; age, marital status, educational level, monthly income, having someone of the family suffered from breast cancer, and the sources of information about breast cancer.

2- A structured questionnaire was developed by the researchers to identify the knowledge regarding breast cancer and breast self examination; these knowledge questionnaire are formulated to gather data before and after educational program (immediately, after finishing the programe and after one month). The questionnaire included 51 items regarding general knowledge of cancer, causes , symptoms, examination , treatment, prevention of breast cancer and knowledge about breast self examination (51 items). The questionnaire has 2 responses, 1 for correct answer and Zero for wrong answer with a total score of 51, the heigher the socre, the heigher the level of knowledge regarding breast cancer.

Tool II – Observational check list related to breast self examination

Observational checklist was developed by the researchers based on the work of Phumla.PH (2011)[18] and Muluken A. etal.,(2013)[19] for assessing women practice about BSE. This tool was used before the educational programe, immediately after completion of the program and one months later to evaluate women's performance. The observational checklist included 10 items related to breast self examination practice. If the item was done by a woman, it was given 1 and Zero for not done with a total score of 10. The heigher the score the better the performance regarding BSE.

Ethical consideration:

To carry out the study, the necessary official approval was obtained from the Dean of the Faculty of Education for Science Departments in Dammam University at Hafer Al Batin Governate, KSA. The aim of the study was explained to each woman and oral consent to participate was obtained. Women were assured that the obtained information will be confidential and will be used only for the purpose of the study.

Procedure of data collection

1. Validity of the research tool was ensured through a review by 3 experts who hold a PhD in nursing and the necessary modification were made. Tool language was also tested for clarity of meanings.
2. Apilot study was conducted on 3 women to ensure the visibility of the tool and time needed to answer the questions.
3. Data collection for the study was carried out in the period from April 2014 to June 2014. The methods of teaching used were lecture followed by focus group discussion, and demonstration for practices. Postres were also used to provide and view more information. A booklet was developed with more

detailed information about the study and each woman was provided a copy.

4. The study tool was used three times throughout the study. First time was before the program started to get a base line data about participants' knowledge of breast cancer and their level of BSE practice. Second time was immediately after completion of the program to test if there is any improvement in participants' knowledge and practice. The third time was one month later to examine if knowledge and practice were retained over time among the study participants.

The Educational program sessions

First data collection was done to assess knowledge and practice of women regarding breast cancer and BSE. The tool was took 30 minutes to finish. Women were asked to practice BSE in front of reserachers and the observational checklist for assessing women's performance were filled by the researchers during women practice of breast self examination.

All women were given booklet [21-27] about breast cancer knowledge and breast self examination technique. During the program sessions, women were divided into two groups; each group consisted of 18 participants, the subjects in each group were given knowledge about breast cancer and practice about BSE. The educational program was covered in 4 sessions; each session lasts 4 hours, 2 days a week for a period of 2 weeks.

The first and second sessions for two groups were to provide theoretical knowledge about breast cancer such as general knowledge, causes , symptoms, detection and treatment, prevention of breast cancer and breast self examination knowledge. Lectures and group discussion were given first day first session for group 1 and second day for second session for group 2.

The third and fourth sessions for the other two groups were geared toward practice of BSE. The BSE was demonstrated by the researchers using different normal and abnormal breast modules. The participants were allowed to practice BSE on the modules under supervision. It was given in about 2 days for 4 hours/day; the first day third session for group 1 and second day for fourth session for group 2.

Evaluation of the program was completed using the study tool immediately after ending of the educational program (post test) and after a 4-week period the participants were assessed for information retention and practice.

Methods of data analysis

All data were coded, tabulated and subjected to statistical analysis. Statistical analysis is performed using SPSS version 13. Quantitative variables are described by the Mean, Standard Deviation (SD), while qualitative categorical variables are described by proportions and percentages. Descriptive statistics are used to analyze the response to individual items and the respondents' characteristics. Chi-square was used to test differences between the groups before and after the program.

3. Results

Table (1) Shows the distribution of the studied women according to their socio-demographic characteristics. As regard to age, the table shows that the 47.2% of participats were in the age group (35-45) years old. In relation to educational level, the table shows that a majority of 91.7% had university education. In relation to marital status, 83.3% of participants were married. Regarding having a relative suffered from breast cancer, the table showed that72.2% have no relative suffered from breast cancer.

Figure (1) Shows the distribution of the studied women according to their source of their knowledge. The figure shows that more than half of participants(63.9%) revealed that the main sources of information about breast cancer were taken from doctors, TV, internet , family and friends all together, followed by TV alone in about 16.7% .

Table (2): shows the comparison among studied women regarding general knowledge of breast cancer pre, immediate and after one month of the program. This table shows that there was statistically significant improvement in studied women's regarding general knowledge of breast cancer immedialty after implementation of the intervention program. Participants reported heigher percentage of knowledge immediately after the program and knowledge was slightly reduced after 4 weeks of the program keeping a statistically significant difference at P ≤0.05 .

Tables (3,4,5): show the comparison among studied women regarding their level of knowledge about causes, symptoms, diagnosis, treatment and prevention of breast cancer pre, immediate and after one month of program. These tables show that there were statistically significant improvement in women's knowledge about causes, symptoms, diagnosis, treatment and prevention of breast cancer immedialty after implementation of the intervention program, the lowest percentage of knowledge occur after one month post program with statistically significant difference at P ≤0.05 .

Table (6): shows the comparison among studied women regarding their level of knowledge about breast self-examination pre, immediate and after one month of the program. This table shows there was statistically significant improvement in studied women's knowledge about breast self examination immedialty after implementation of the intervention program, the lowest percentage of satisfactory knowledge occur after one

month post program with statistically significant difference at P ≤0.05 .

Figure (2) Shows the comparison among studied women regarding practice of breast self- examination pre, immediate and after one month of the program. The figure showed that 83.3% of women successfully performed breast self examination immediately after implementation of the program compared to 25% pre program. There was a little decrease in practice of BSE (80.6%) after one month post program.

Table (1):- Distribution of the studied women according to their socio-demographic characteristics.

Socio-demographic characteristics	Sample (n=36)		X^2	P
	No	**%**		
Age (years)				
30-35	7	19.4		
35-45	17	47.2	**4.167**	**0.125**
<45	12	33.3		
Range **Mean±SD**	**22-45** **35.58±6.57**			
Education level				
literacy	1	2.8	**55.167**	**0.000***
Read and write	2	5.6		
university	33	91.7		
Monthly income				
Enough and more	16	44.4	**12.66**	**0.002***
Enough	18	50.0		
Not enough	2	5.6		
Marital status				
Married	30	83.3		
Divorced	2	5.6	**25.35**	**0.001***
Never married	3	8.3		
Widowed	1	2.8		
You have children?				
Yes	30	83.3	**18.16**	**0.002***
No	6	16.7		
If yes, numbers of children	(n=30)			
1	10	33.3		
2	7	23.3	**13.25**	**0.000***
3	9	30.0		
4	1	3.3		
5	2	6.7		
7	1	3.3		
Is there one of your relatives suffered breast cancer?				
Yes	10	27.8		
No	26	72.2	**22.13**	**0.001***
If the answer yes , what is the relationship	(n=10)			
Mother	1	10.0		
Sister	6	60.0		
Aunt	3	30.0	**24.01**	**0.001***

 *Significant P<0.05

Fig (1):- Distribution of the studied women according to their source of knowledge about breast cancer.
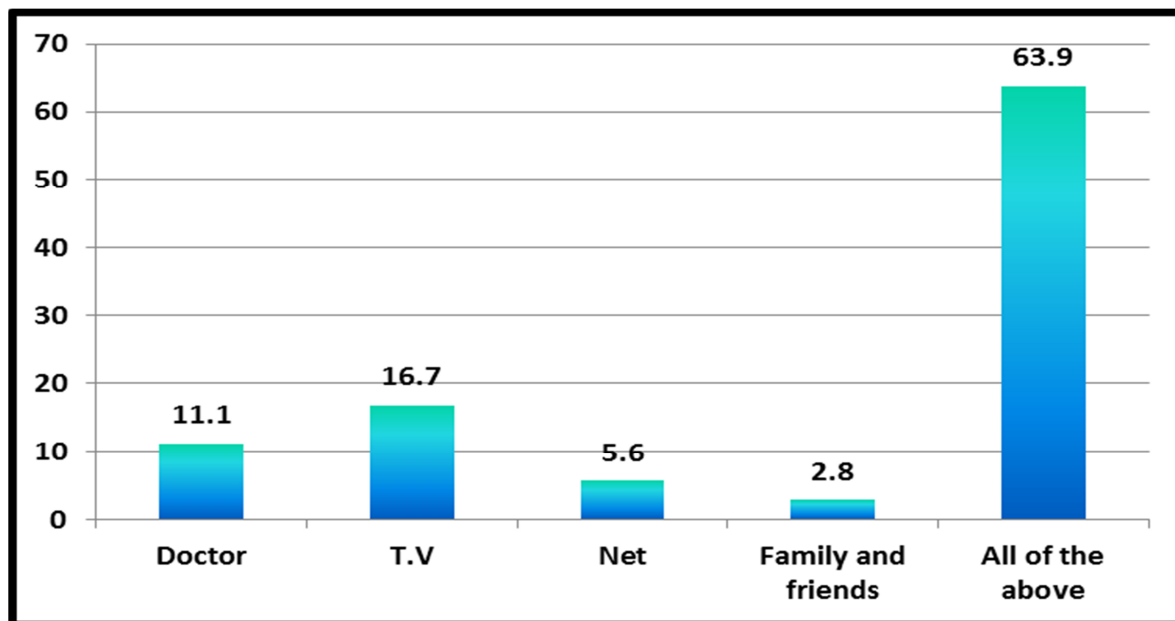
*More than one answer

Table (2):- Comparison among studied women regarding general knowledge of breast cancer pre, immediate and after one month of program

knowledge about breast cancer	Pre-program (n=36)		Immediate post program (n=36)		After one month of program (n=36)		X2	P
	No	%	No	%	No	%		
Breast cancer is the most common tumors between women	10[a]	27.8	30 [a]	83.3	28 [a]	77.7	**22.25**	**0.001***
There are multiple stages of breast cancer	12	33.3	28	77.7	20	55.6	**27.12**	**0.001***
Most breast tumors are malicious	18	50.0	29	80.5	27	75.0	**27.42**	**0.001***
Increase the incidence of breast cancer with age	17	47.2	30	83.3	28	77.7	**24.12**	**0.012***
Woman who is diagnosed with breast cancer earlier than the proportion of cancer	22	61.1	32	88.9	26	72.2	**30.00**	**0.002***
All woman's risk for breast cancer, especially with increase age	18	50.0	30	83.3	20	55.6	**30.00**	**0.002***
Breast cancer affects women only	25	69.4	4	11.1	8	22.3	**29.27**	**0.012***
There are several factors for breast cancer	13	36.1	36	100.0	30	83.3	**31.26**	**0.022***
Cancer occurs at any stage of life as a result of the failure of the regulatory process of cell division	**11**	**30.5**	**29**	**80.6**	**24**	**66.7**	29.46	**0.031***

[a] No of woman having knowledge in relation to total number (36) of assigned women

  *Significant P<0.05

Table (3):- Comparison among studied women regarding causes and symptoms of breast cancer pre, immediate and after one month of program.

knowledge about breast cancer	Pre-program (n=36)		Immediate post program (n=36)		After one month of program (n=36)		X2	P
	No	%	No	%	No	%		
Birth before the age of thirty of the most influential factor in the increased incidence of breast cancer	25[a]	69.4	4[a]	11.1	8[a]	22.3	**29.27**	**0.012***
Genetic factors affect the incidence of breast cancer	18	50.0	30	83.3	20	55.6	**30.00**	**0.002***
Obesity has strong relationship of breast cancer occurrence	17	47.2	30	83.3	28	77.7	**24.12**	**0.012***
Exposure to radiation has not relationship of breast cancer occurrence	23	63.9	7	19.4	10	27.8	**35.16**	**0.011***
Childlessness or having children after the age of 35 factors that may increase the incidence of breast cancer	23	63.9	7	19.4	10	27.8	**35.16**	**0.011***
Uses of oral contraceptives from factors breast cancer incidence	13	36.1	36	100.0	30	83.3	**31.26**	**0.022***
Symptoms of breast cancer increased the size of breast	28	77.7	30	83.3	28	77.7	**29.27**	**0.012***
The presence of secretions from the nipple is not evidence of the presence of breast tumors	30	83.3	7	19.4	10	27.8	**35.16**	**0.011***
Change the color and shape of the breast may be a sign of breast cancer	17	47.2	30	83.3	28	77.7	**24.12**	**0.012***
Breast cancer may occur without the presence of pain in the breast	15	41.7	32	88.9	26	72.2	**22.25**	**0.001***
The discovery of mass of the breast is not necessarily the presence of cancer	13	36.1	31	86.1	26	72.2	**27.45**	**0.001***
Bloody secretions are considered symptoms of breast cancer	13	36.1	31	86.1	26	72.2	**27.45**	**0.001***

[a] No of woman having knowledge in relation to total number (36) of assigned women

*Significant P<0.05

Table (4):- Comparison among studied women regarding detection and treatment of breast cancer pre, immediate and after one month of program.

knowledge about breast cancer	Pre-program (n=36)		Immediate post program (n=36)		After one month of program (n=36)		X2	P
	No	%	No	%	No	%		
The discovery and treatment of breast cancer early often leads to full recovery	17[a]	47.2	34[a]	94.4	30[a]	83.3	**27.45**	**0.010***
For detection of breast cancer, there are ways and steps must be followed	14	38.9	30	83.3	28	77.7	**24.12**	**0.012***
Follow up care for health programs important for women's health	16	44.4	30	83.3	26	72.2	**29.16**	**0.001***
I go to consult doctors with expertise in this area if I have problem	4	11.1	33	91.7	29	80.6	**27.16**	**0.001***
Self-examination and clinical examination is one of the first ways for early detection	13	36.1	33	91.7	29	80.6	**27.12**	**0.001***
The best time to examine the breast before the monthly cycle	30	83.3	7	19.4	10	27.8	**35.16**	**0.011***
Are breast self-examination on a regular basis every month in the fifth day of the cycle	4	11.1	33	91.7	29	80.6	**27.16**	**0.001***
Periodic examination radioactivity of the breast (mammogram) examination is the most important and the only one to detect cancer early	4	11.1	33	91.7	29	80.6	**27.16**	**0.001***
treatment of breast cancer differs according to stage and degree of disease	13	36.1	33	91.7	29	80.6	**27.12**	**0.001***
Breast cancer can be treated with surgery	14	38.9	30	83.3	28	77.7	**24.12**	**0.012***
breast cancer can be treated also by radiotherapy and chemotherapy	9	25.0	30	83.3	28	77.7	**34.16**	**0.001***

[a] No of woman having knowledge in relation to total number (36) of assigned women

 *Significant P<0.05

Table (5):- Comparison among studied women regarding prevention of breast cancer pre, immediate and after one month of program.

knowledge about breast cancer	Pre-program (n=36)		Immediate post program (n=36)		After one month of program (n=36)		X2	P
	No	%	No	%	No	%		
Feeding a key role in the prevention of breast cancer	10[a]	27.8	33[a]	91.7	29[a]	80.6	**19.78**	**0.010***
Maintaining the ideal weight of the most important factors which protect against breast cancer incidence	13	36.1	33	91.7	29	80.6	**27.12**	**0.001***
Diversity in leafy vegetables and green tea foods that fight cancer incidence	11	30.6	32	88.9	28	77.7	**27.46**	**0.021***
Reduce the fat is a significant impact in the prevention of cancer	13	36.1	33	91.7	28	77.7	**24.16**	**0.001***
Drink plenty of water balanced helps protect against cancer	9	25.0	30	83.3	29	80.6	**19.45**	**0.001***
Women who exercise regularly are less likely to breast cancer incidence	10	27.8	33	91.7	29	80.6	**19.78**	**0.010***
Breast-feeding causes of breast cancer prevention	9	25.0	30	83.3	28	77.7	**34.16**	**0.001***
Action mammogram every two years for women over the age of fifty of the most important means of prevention of women from cancer	16	44.4	30	83.3	26	72.2	**29.16**	**0.001***
Stay away from all may be sources of psychological problems	11	30.6	30	83.3	28	77.7	**27.25**	**0.001***
avoid depression because it is leading cause of cancer incidence	11	30.6	32	88.9	28	77.7	**27.46**	**0.021***

[a] No of woman having knowledge in relation to total number (36) of assigned women
***Significant P<0.05**

Table (6) Comparison among studied women regarding breast self- examination knowledge pre, immediate and after one month of program.

knowledge about breast cancer	Pre-program (n=36)		Immediate post program (n=36)		After one month of program (n=36)		X2	P
	No	%	No	%	No	%		
Breast self-examination is the most important means of early detection of breast cancer	10[a]	27.8	30[a]	83.3	28[a]	77.7	22.25	0.001*
What is the age that it should start abreast self-examination?	11	30.6	30	83.3	28	77.7	27.25	0.001*
It is necessary to be familiar with normal beast to be able to determine any changes through breast self-examination	4	11.1	33	91.7	29	80.6	27.16	0.001*
How many times have you mostly women perform breast self-examination Weekly Monthly Yearly	20 10 6	55.6 27.8 16.7	2 30 4	5.6 83.3 11.1	4 28 4	11.1 77.7 11.1		
difference in the shape and position of the nipples refers to the existence of the breast tumors	11	30.6	32	88.9	28	77.7	27.46	0.021*
Change the color of skin of the breast and the increased thickness is evidence of cancerous tumors of the breast	11	30.6	32	88.9	28	77.7	27.46	0.021*
The presence of mass under the armpit evidence of the breast tumors	9	25.0	30	83.3	28	77.7	34.16	0.001*
In case of diseased of breast cancer, we note during the examination presence of unusual breast secretions or change the color of the nipple	13	36.1	33	91.7	28	77.7	24.16	0.001*
Breast self- examination made in the following position Lying position In front of mirror During shower All the previous Nothing from the previous Don't know	10 8 11 5 0 2	27.8 22.2 30.6 13.9 0.0 5.6	2 2 0 32 0 0	5.6 5.6 0.0 88.9 0.0 0.0	2 3 1 30 0 0	5.6 8.3 2.8 83.3 0.0 0.0	--	--

[a] No of woman having knowledge in relation to total number (36) of assigned women

 *Significant P<0.05

Fig (2):- Distribution of the studied women according to their right practice of breast self- examination pre, immediate and after one month of program.
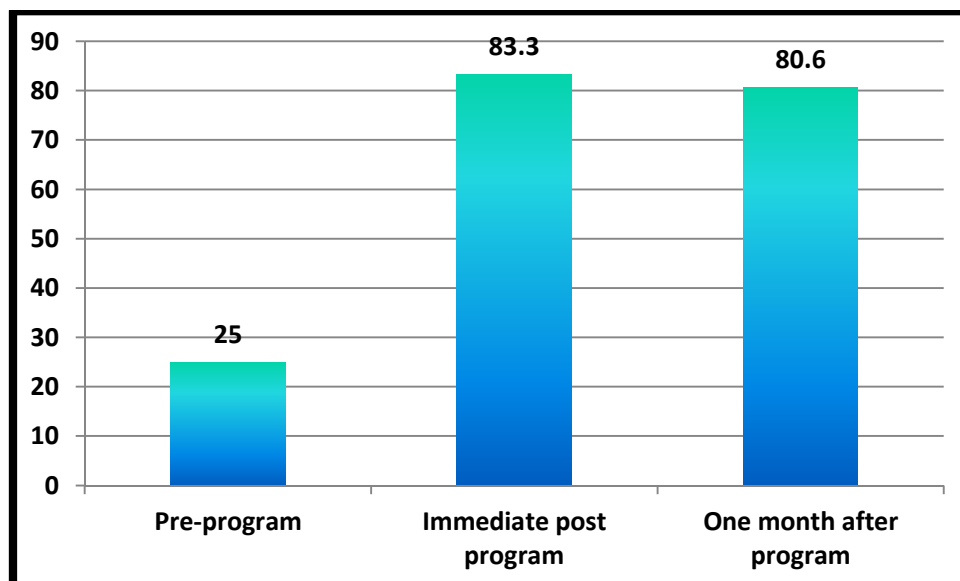
4. Discussion

Breast cancer is the leading cause of cancer related deaths among women world-wide [28,29]. In Saudi Arabia, the percentage of death from breast cancer is 19.8 % in age of 45 years. Although breast cancer usually develops after the age of 45 years, the age of onset is decreasing and more young women than ever are affected [30]. In Saudi Arabia, breast cancer is established that the early detection of breast cancer increases survival and prevention [31, 32].

The overall purpose of the study was to assess the level of breast cancer knowledge and breast self-examination practice between women and find out the effect of educational program regarding breast cancer knowledge and training about breast Self-examination.

In the current study nearly half of women's age from thirty five to forty five years old, the majority of them were married and had university educated, as regard monthly income majority of them were have enough and more monthly income. In relation to history about breast cancer the study revealed that 72.2% of study subject mentioned that they had not a family history of breast cancer. This finding was in agreement with Abd-Raoof H.A. (2013)[33], Omolase CH. O. (2000)[34] and Shahbaz T., Nisa K.(2013)[35] who reported that the mean age of the studied group was 29.5years and ranged from 18 to 55 years, slightly more than half of the respondents were married and less than half worked for more than 5 years. The overwhelming majority of the studied group (95.5%) had not any previous breast health problems and twelve point five percent of the studied sample mentioned that they had a family history of breast cancer.

In relation to source of knowledge about breast cancer, the findings of the present study explained that TV and doctor were highly source of information about breast cancer but more than half of women reported that mixed sources of information about breast cancer. These findings matched with those of a research carried out by Omotara B., etal. (2012)[36] Who reported that the majority of those who are aware of breast cancer obtain their information through friends and health workers. In other study done among young Malaysian women revealed that electronic media such as radio and TV was the most common source of information of breast self-examination Al-Naggar R.A. (2011)[37].

As regard to general knowledge of breast cancer, the results of the present study revealed that the majority of the participant reported that right answer about general knowledge of breast cancer and there was statistically significant difference between pre-program, immediate and after one month of program. This finding is similar to the study which conducted by Shahbaz T., Nisa K. (2013)[35] who reported that the result of their study showed that participant from women had poor knowledge of breast cancer and breast self-examination. This may be one of the reason of late reporting and diagnosis of breast cancer patients. Also Musallam R., etal. (2011)[38] reported that the study participants were having better knowledge of common symptoms of breast cancer (71.97-92.36%) than the risk factors (49.68-86.62%).

Concerning the level of knowledge about causes and symptoms of breast cancer there were statistically significance difference increased in women's knowledge from preprogram to immediate post program and after

one month of program as more than half of women who reported right answer in eight question from twelve. In the same line Musallam R., et. al. (2011)[38] and Abd Elsabour M., et. al.   (2013)[39] who reported that in the post program phase, it can be clearly seen that there was an improvement in some areas of knowledge as definition, methods for prevention or decrease risk of breast cancer, important of examination, and knowing the dangerous signs and symptoms between studied group.

As regard to investigating level of knowledge about prevention of breast cancer, there was highly statistically significance difference observed in women's knowledge from preprogram to immediate post program and after one month of program. The finding is in agreement with SpectorD., et. al.(2009)[40] who reported that One-third of participant identified lack of exercise and 40% white women only mentioned overweight/obesity as risk factors despite many studies consistently showing associations between these factors and breast cancer. It is concerning that most participants were unaware of the importance of exercise and weight control because most of them were overweight or obese. Knowledge about the relationship between alcohol consumption and breast cancer was completely lacking despite it is being one of the most consistently reported associations in the literature.

Also this finding is consistent with the study done by Yousuf S.A. (2010)[41] who found that participant's knowledge about breast cancer significant improvement after posttest program due to the immediate influence of workshop on them. Also Abd Elsabour M., et. al. (2013) [39] who reported that a defect in the total knowledge and practices about breast self- examination on the most of the studied students as it estimated to be 94% and 86% respectively in the preprogram, after implementation of the health educational program there was a statistically significant highly improvement in their both knowledge and practices reaching to 94% and 96% respectively.

Although the majority of women in this study were university educated but preprogram knowledge about BSE were significantly low if compared with posttest. The current study is expected to provide studied women with some understanding and highly proficiency of screening practices of breast cancer by BSE. The study revealed that statistically significant difference between preprogram, immediate and after one month of women knowledge about breast self-examination where the majority of the women reported right answer after program implantation. This result is not consistent with Shahbaz T. , Nisa K. (2013)[35] who reported that level of education of attendance women and their awareness about breast self-examination showed a direct association with each other women with higher education were found to have more knowledge about BSE.

In relation to practice of breast self- examination there is increase in percent of women who rightly practice of breast self-examination from one quarter in pre-program to more than three quarter immediate and one month after program. In a similar study Marinho LA., et al.(2003)[42] and Abd-Raoof H. A. (2013)[33] who found that about half of participants under study from those who did not perform BSE had unsatisfactory knowledge. On the other hand, Seif Z.Y. and Aziz M.A. (2000)[6] who assured that unsatisfactory knowledge was positively associated with practicing BSE post program.

5. Conclusion

Generally, the present study indicates that the knowledge of breast cancer as well as practice of BSE among participants were poor before starting the educational program. Factors contributed to this could be gaining such information from non professional source. Majority of women in this study were married, so they could be busy raising and supporting their children and family and have no time to care of themselves. Further, lack of awareness regarding the correct methods of how to perform BSE could be also a factor.

6. Recommendations

- Developing a community awareness programs targeted toward women to improve their knowledge and priorterize their concerns.
- Women can effectively use BSE to detect abnormality in their breast if they develop self-efficacy in doing it. So, there is needed to raise women awareness regarding BSE early in their life through media, schools, premarital examinations and maternity clinics.
- Further researches with larger and more diverse sample are needed to get a better understanding of women perception, attitude and practice regarding this phenomenon.

Limitation of the study

Small sample size and lack of true experimental design would hinder randomization of the study results. It would be better to test reasons behind women's' inability to retain knowledge after 4 weeks of the program.

Acknowledgement

Tanta University, Egypt for editing, and reviewing the study.

7. References

1- Abd El-Aziz N. A., Mersal F. A., and Taha N. M., Nursing Intervention Program for Early Detection and Prevention of Breast Cancer among Working Women, Journal of American Science, 2011;7(1): p15.

2-Bates T., Kearins O., Monypenny I., Lagord C. and Lawrence G., Clinical Outcome Data for Symptomatic Breast Cancer: the Breast Cancer Clinical Outcome Measures (BCCOM) Project. Br. J. Cancer, 2009; 101(3):395-402.

3- World Health Organization Cancer WHO. Retrieved on 20th April,http://www.who.int/ media-centre/factsheets/fs297/en/, 2010.

4-Arthur DW., Internal Mammary Node Coverage: An Investigation of Presently Accepted Techniques, International Journal of Radiation Oncology, Biology and Physics, 2000; 48(139): p146.

5-Association of Directors of Anatomic and Surgical Pathology. Immediate Management of Mammographically Detected Breast Lesions. American Journal of Surgical Pathology, 1993;17(8): p850

6-Seif Z.Y. and Aziz M.A., Effect of Breast Self-Examination Training Program on Knowledge, Attitude and Practice of a Group of Working Women, Journal of the Egyptian Nat. Cancer Inst., 2000 ; 12(2): P105-115.

7-Bener A., Ayub H., Kakil R. and Ibrahim W., Patterns of Cancer Incidence Among the Population of Qatar: A worldwide Comparative Study, Asian Pac. Jour. Cancer Prev., 2008; 9 (1): p19-24.

8-Bener A., El Ayoubi HR., Moore M.A., Basha B., Joseph S. and Chouchane L., Do we Need to Maximize the Breast Cancer Screening Awareness? Experience with an Indigenous Society with High Fertility. Asian Pac. J. Cancer, 2012; 10(4): p16 - 17.

9-National Cancer Institute, Clinical Trial Summary from the National Cancer Institute's PDQ, U.S. National Library of Medicine, 2006; 3 (3):P. 1-12.

10 Gab-Alla S., Quality of Life in Cancer Patients under Chemotherapy, Unpublished Master Thesis, Faculty of Nursing, Suez Canal University, Egypt, 2003, p.54.

11-Mai V., Sullivan T. and Chiarelli AM., Breast Cancer Screening Program in Canada: Successes and Challenges. Salud Publica Mex , 2009, p51

12-McCready T., Littlewood D. and Jenkinson J., Breast Self-Examination and Breast Awareness: A literature review. J. Clin. Nurs., 2005;14(5): p570-578.

13-Parvani Z., Breast Self-Examination; Breast Awareness and Practices of Systemic Review, Professional Med. Journal., 2011; 18(2): p336-339.

14-Secginli S. and Nahcivan NO., Breast Self-Examination Remains an Important Component of Breast Health: A response to Tarrant. Int. J. Nurs. Stud., 2006; 43(4): p521-523.

15-Mele N., Archer J. and Pusch B. D., Access to Breast Cancer Screening Services for Women with Disabilities, Journal of Obstetrics & Gynecology' Neonatal Nursing, 2005;34 (A): p 453-464.

16-Austein M., Saudi Women Work to Improve Breast Cancer Awareness http://www.america.gov/st/ washfileenglish/2006/June/20060623141131hmnietsua-0.9000055.html. Research 22 June, 2006.

17-Thomas DB., Gao DL., Self SG., Ray MR., Wang WW. and Allison CJ., et al. ,Randomized Trial of Breast Self-Examination in Shanghai: final results.. J. Natl. Cancer Inst.,2002; 94(19): p1445-5728.

18- Phumla P., An Investigation of Knowledge and Practice of Breast Self-Examination among Female High School Learners: An intervention Study, Degree of Master of Arts (Clinical Psychology) in the Department of Psychology, University of Zululand Kwa-Dlangezwa2011.

19- Azage M., Abeje G. and Mekonnen A., Assessment of Factors Associated with Breast Self-Examination among Health Extension Workers in West Gojjam Zone, Northwest Ethiopia, International Journal of Breast Cancer Volume 2013; p 6.

20- Guilford K., Breast Cancer Knowledge, Beliefs and Screening Behaviors of College Women: Utilization of the Health Beliefs Mode, Degree of Doctor of Philosophy in the Department of Health Science in the Graduate School of, The University of Alabama, 2011.

21-Abeloff MD., Wolff AC., Weber BL., Armitage JO., Lichter AS., et al., Cancer of the Breast ,Clinical Oncology. 4th ed. Philadelphia, Pa: Elsevier; 2008: p1875–1943.

22-American Cancer Society. Cancer Facts and Figures, Atlanta, Ga: American Cancer Society; 2014.

23-Anderson GL., Clebowski RT. And Aragaki AK., et al., Conjugated Equine Oestrogen and Breast Cancer Incidence and Mortality in Postmenopausal Women with Hysterectomy: Extended Follow-up of the Women's Health Initiative randomized placebo-controlled trial Lancet Oncol,2012 ;13(5): p476−486.

24-American Cancer Society. Detailed Guide: Breast Cancer. Accessed at http://www.cancer.org/Cancer/BreastCancer/DetailedGuide/index on August 24, 2014.

25-Centers for Disease Control and Prevention, National Breast and Cervical Cancer Early Detection Program, Accessed at: www.cdc.gov/cancer/ nbccedp/about.htm on September 10, 2014

26-Breast cancer A Resource Guide for Minority Women U.SA., Department of Health and Human Services,

Office of Public Health and Science Office of Minority Health, 2009

27-Oussama M.N. and Khatib MD., Guidelines for the Early Detection and Screening of Breast Cancer, World Health Organization, 2006.

28-Jemal A., Siegel R., Ward E., Murray T., Xu J., Smigal C. and Thun M.J., Cancer Statistics, CA. Cancer J. Clin., 2006; 56(2): p106-30.

29- Groot M.T., Battussen R., Uyl-de Groot C.A. et al., Costs and Health Effects of Breast Cancer Interventions in Epidemiologically Different Regions of Africa, North America and Asia, 2006; 12, p 81-90

30- Yakout S. M., El-shatbyMoursy A. M., Moawad S. and Salem O., Awareness, Knowledge and Practice of Breast Self-Examination among Groups of Female Nursing Students, Riyadh, Kingdom of Saudi Arabia, International Research Journal of Biological Sciences, 2014; 3(2): p58-63.

31-Schopp LH.,Sanford TC., Hagglund KJ., Gay JW. and Coatney MA., Removing Service Barriers for Women with Physical Disabilities; Promoting Accessibility in the Gynecologic Care Setting, J. Midwifery Women Health., 2002; p47:74-79.

32-MMWR. Use of Cervical and Breast Preventive Cancer Screening among Women with and without Functional Limitations-United States,.MMWR Morb Mortal Wkly Rep.,1998; 47: p853-856.

33- Abdel-Raoof H. A., Breast Self-examination and Risk Factors of Breast Cancer: Awareness of Jordanian nurses , Health Science Journal, 2013;7(3): p304-314.

34-Omolase CH. O., Awareness, Knowledge and Practice of Breast-Self Examination amongst Female Health Workers in Aigerian Community. Department Of Ophthalmology, Federal Medical Centre, Owo. Ondo State, 2000, Email address :omolash2000@yahoo.com.

35-Shahbaz T. and Nisa K., Knowledge and Practice of Breast Self-Examination among Antenatal Attendees Presenting to a Trtiary Care Hospital in Karachi, Pakistan JUMDC, 2013;4 (1) p 44.

36-Omotara B., Yahya S., Amodu M. and Bimba J. , Awareness, Attitude and Practice of Rural Women regarding Breast Cancer in Northeast Nigeria Community, Med. Health Educ. 2012; 2(5) http://dx.doi.org/10.4172/2161-0711.1000148.

37-Al-Naggar R.A., Al-Naggar D.H., Bobryshev Y.V., Chen R. and Assabri A., Practice and Barriers Toward Breast Self-Examination among Young Malaysian Women, Asian Pacific Journal of Cancer Prevention, 2011; 12: p 1173-78.

38-Musallam R., Al Junaibi S. and Alam Khan, Knowledge and Awareness of Breast Cancer among University Female Students in Muscat, Sultanate of Oman- A pilot study, Journal of Applied Pharmaceutical Science 2011;1 (10): p146-149.

39-Abd Elsabour M., Qalawa A. S. and Mohamed A. M., Impact of Health Intervention Program Regarding Breast Self-Examination among Port Said female university students,Journal of American Science, 2013;9(3).

40-SpectorD., , Mishel D., Sugg Skinner C., Lisa A. DeRoo, VanRiper M., and Dale P. Sandler, Breast Cancer Risk Perception and Lifestyle Behaviors Among White and Black Women With a Family History of the Disease, Copyright B 2009 Wolters Kluwer Health | Lippincott Williams & Wilkins

41-Yousuf S.A., Breast Cancer Awareness among Saudi Nursing Students, JKAU:Med. Sci., 2010; 17(3): p 67-78 .

42-Marinho LA., Costa-Gurgel MS., Cecatti JG. And Osis MJ. Knowledge, Attitude and Practice of Breast Self-Examination in Health Centres. Rev Saudi Publica., 2003; 37(5): p576-578.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/   All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Academic conference: http://www.iiste.org/conference/upcoming-conferences-call-for-paper/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar